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# Post Lumbar-Puncture Headache Experience in a Community Hospital (PEACH) Study

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## INTRODUCTION

Post lumbar puncture (LP) headaches have been reported to occur in 10 to 30% of patients. The incidence of post-LP headaches at Pen Bay Medical Center (PBMC) was unknown prior to this study. This study was undertaken to attempt to understand the local experience with this procedural complication.

## STUDY DESIGN

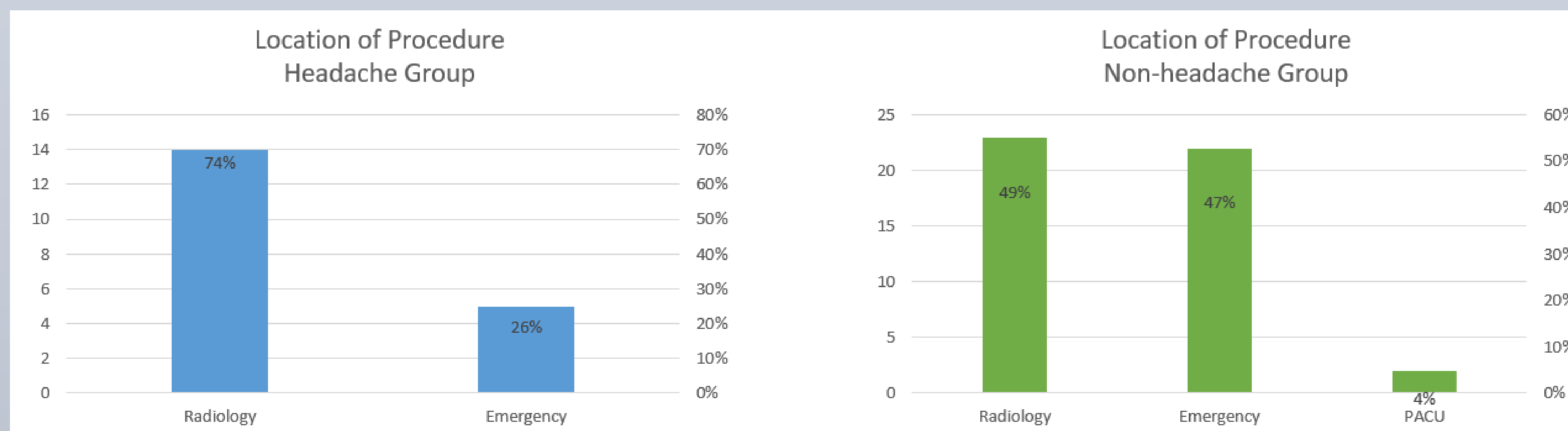
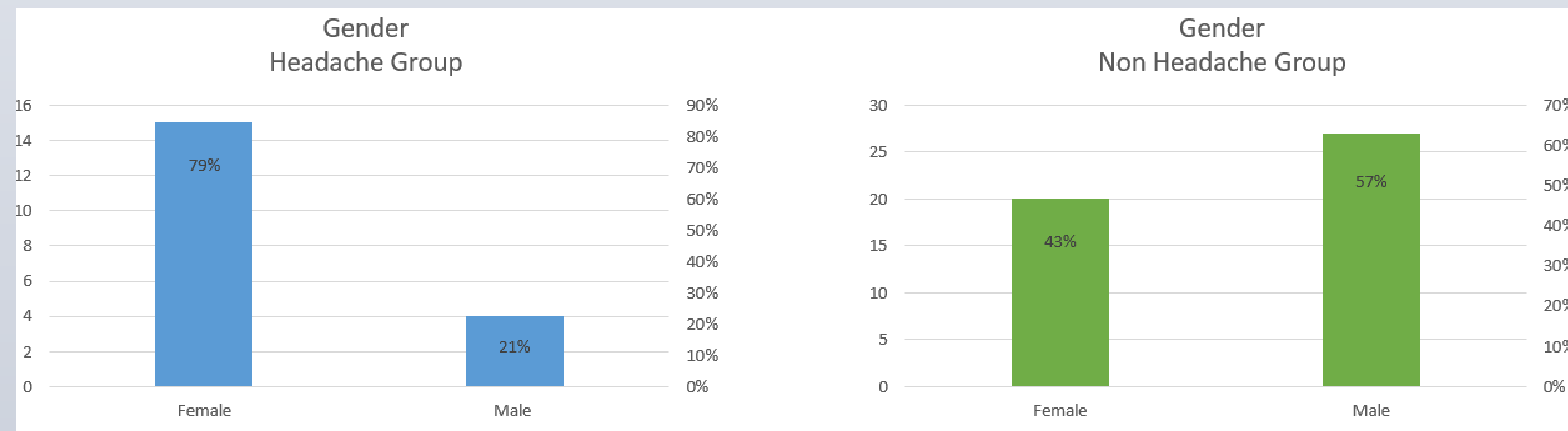
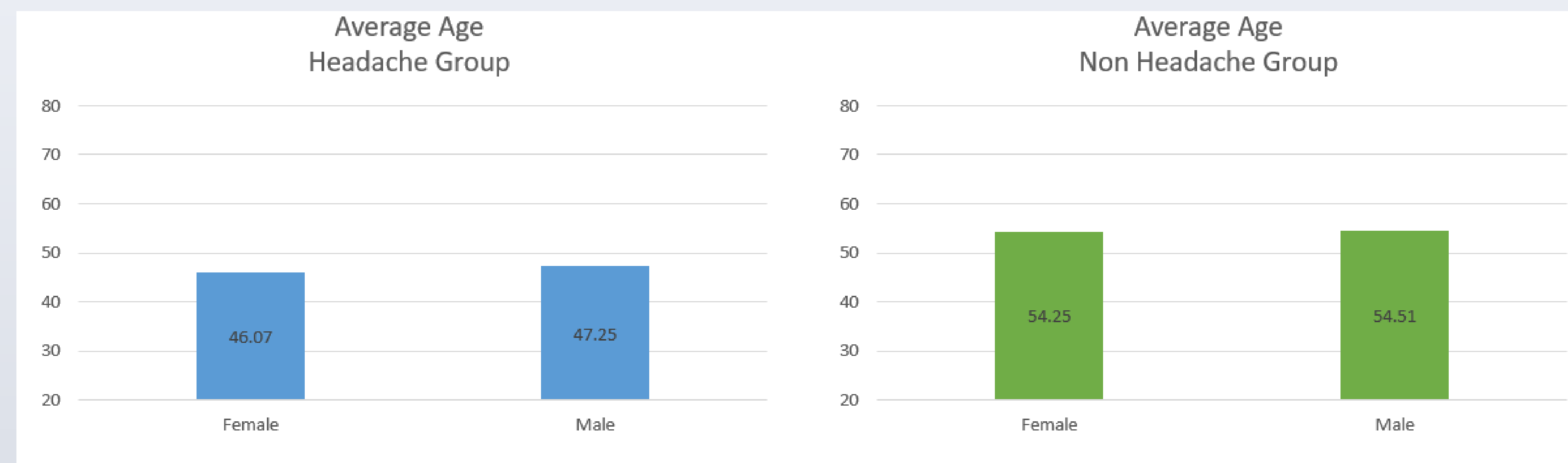
This study was a retrospective chart review, quality improvement project. All patients that underwent a lumbar puncture at PBMC from January 1, 2017 through June 25, 2018 were included in the study. The only patients excluded were young children who were unable to communicate experiencing a post LP headache since the complaint rate was dependent on patient communication to providers.

## METHODS

The study was a chart review with data points entered into a Microsoft Excel spreadsheet in order to be analyzed. The following data points were collected and analyzed:

- Provider conducting procedure
- Location of procedure in institution
- Needle type
- Position of patient
- Stylet replaced before needle removed
- Indication for LP
- Patient age
- Patient gender
- Patient BMI
- CSF open pressure
- CSF white blood cell count
- CSF red blood cell count
- CSF total protein
- CSF total glucose
- Post procedure instructions given
- Post procedure adverse events
- Treatment of post procedure adverse events

## DATA



## CONCLUSIONS

The prevalence of post LP headaches at PBMC was found to be 28%. The data show that females are more likely to experience a post LP headache (71%). In addition, age seemed to be a factor in the development of post LP headaches. Out of the 12 females that experienced headache, 10 of them were between the ages of 30 to mid-50s. From this data, it is reasonable to classify PBMC's high-risk group for developing a post LP headache as younger females.

Post LP instructions were only sporadically documented. Lack of documentation in the electronic health record prevented analysis of the role needle tip, needle type, needle orientation, reinsertion of stylet, and patient position played in the development of post LP headaches.

## PLAN FOR IMPROVEMENT

1. Develop standardized reporting of procedure to include patient position, type of needle used, number of needle passes required to obtain CSF, was stylet replaced before needle is withdrawn.
2. Develop with services a consensus for best practice for the performance of LP
3. Develop with services a patient education tool.
4. Provide documented post LP education.
5. Develop a standardized evaluation and treatment algorithm for post LP headaches.

## REFERENCES

Kuntz KM, Kokmen E, Stevens JC, Offord KP, HO MM. Post lumbar puncture headache: experience in 501 consecutive procedure. Neurology 1992; 42: 1884-7

## ACKNOWLEDGEMENTS

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